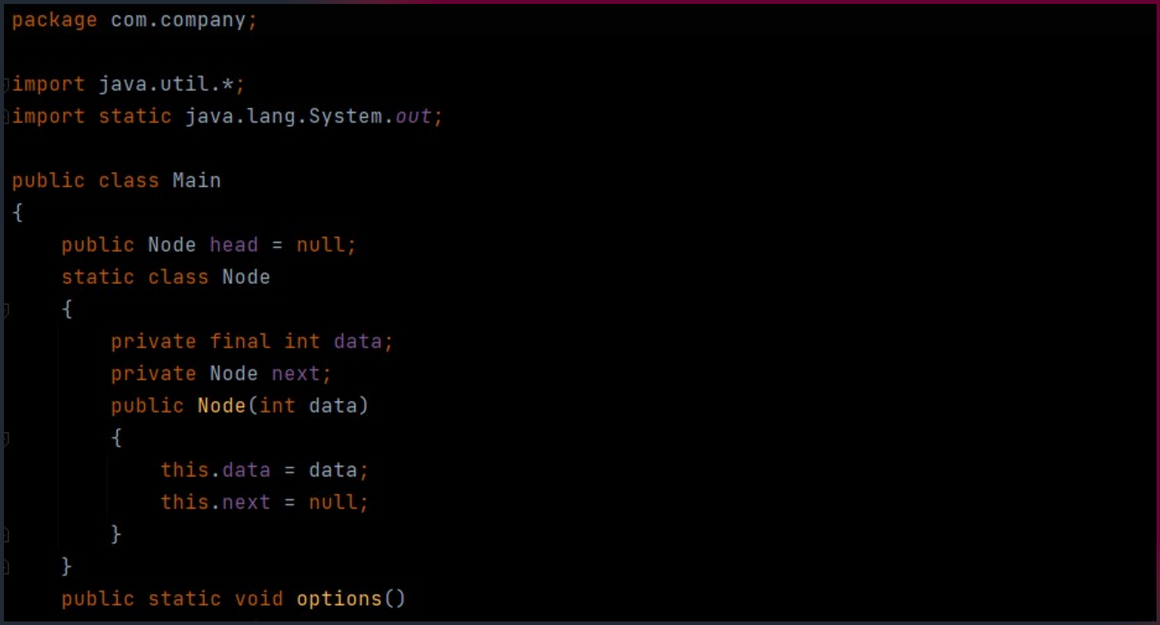
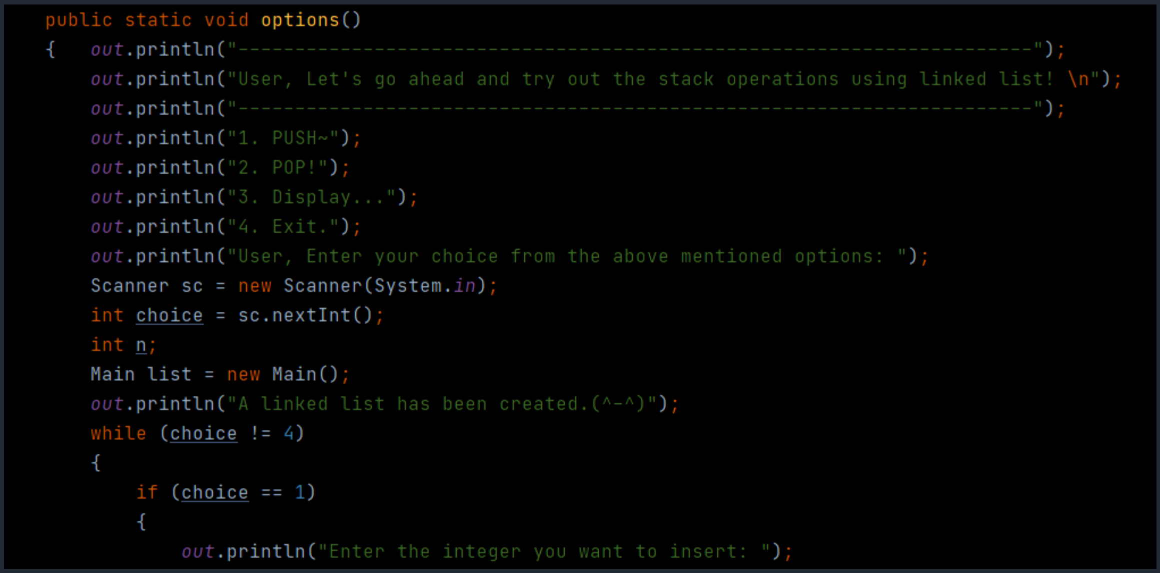
CSE2001 - Stack Operations using Linked List

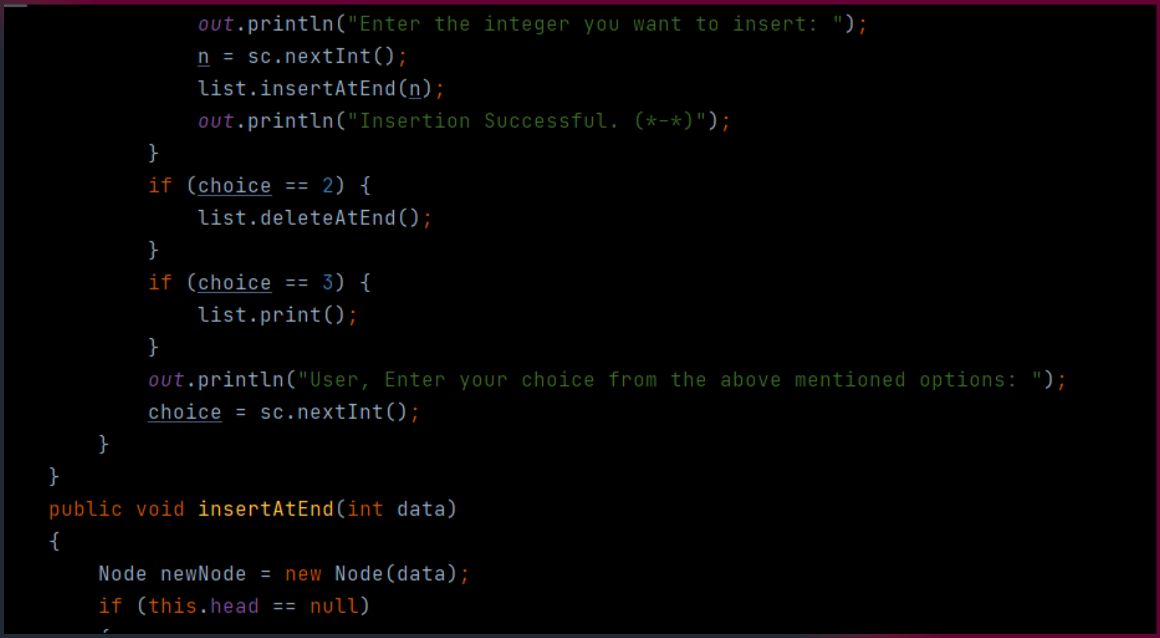
Code:



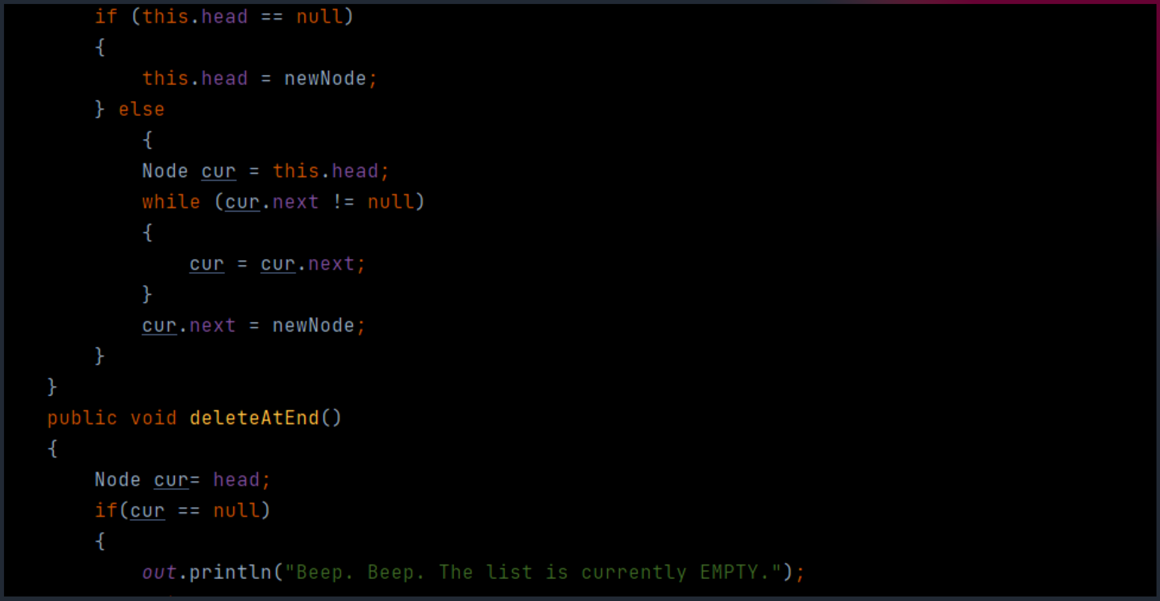
```
package com.company;

import java.util.*;
import static java.lang.System.out;

public class Main
{
    public Node head = null;
    static class Node
    {
        private final int data;
        private Node next;
        public Node(int data)
        {
            this.data = data;
            this.next = null;
        }
    }
    public static void options()
```



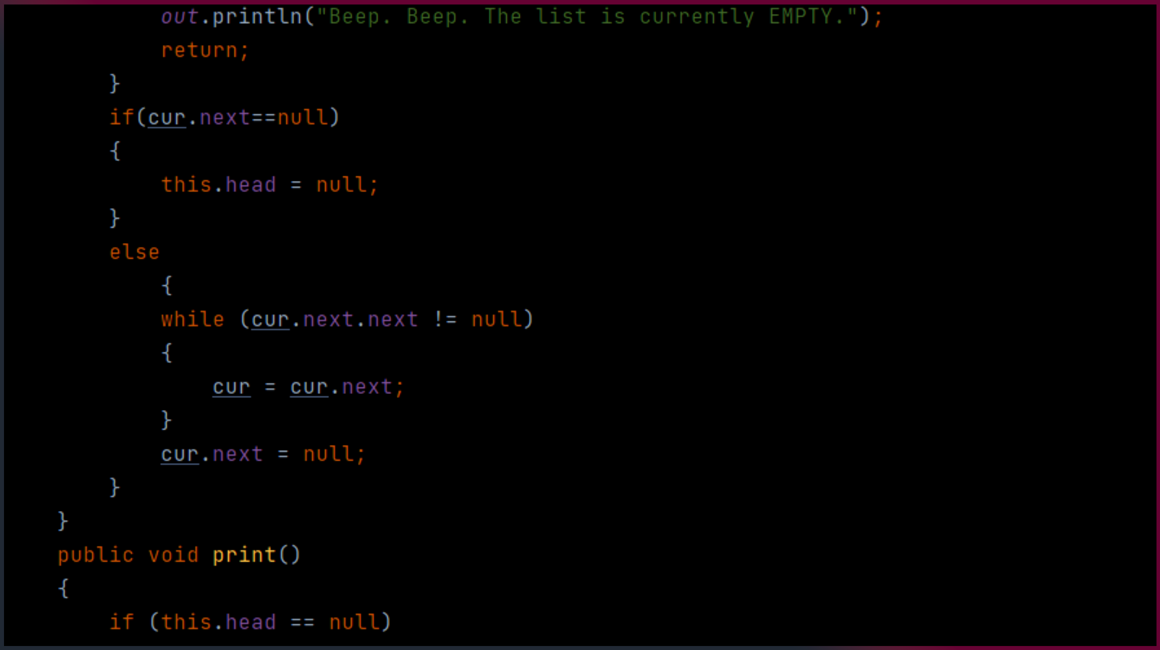
```
    public static void options()
    {   out.println("---------------------------------------------------------------------");
        out.println("User, Let's go ahead and try out the stack operations using linked list! \n");
        out.println("---------------------------------------------------------------------");
        out.println("1. PUSH~");
        out.println("2. POP!");
        out.println("3. Display...");
        out.println("4. Exit.");
        out.println("User, Enter your choice from the above mentioned options: ");
        Scanner sc = new Scanner(System.in);
        int choice = sc.nextInt();
        int n;
        Main list = new Main();
        out.println("A linked list has been created.(^-^)");
        while (choice != 4)
        {
            if (choice == 1)
            {
                out.println("Enter the integer you want to insert: ");
```



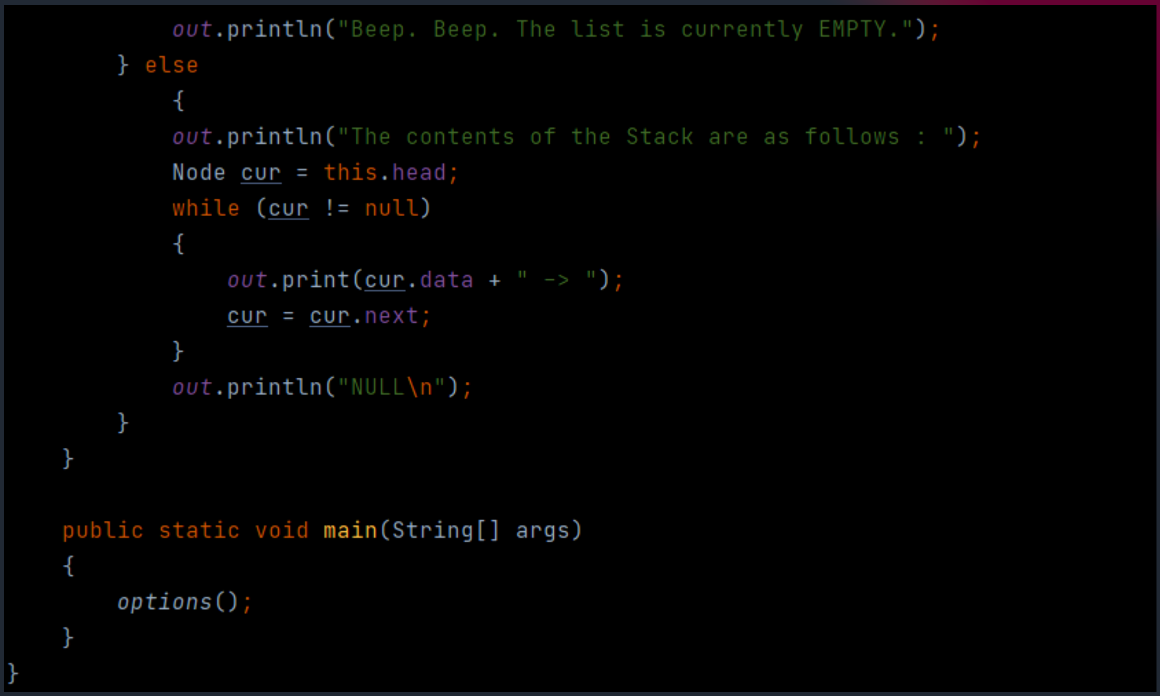
```
            out.println("Enter the integer you want to insert: ");
            n = sc.nextInt();
            list.insertAtEnd(n);
            out.println("Insertion Successful. (*-*)");
        }
        if (choice == 2) {
            list.deleteAtEnd();
        }
        if (choice == 3) {
            list.print();
        }
        out.println("User, Enter your choice from the above mentioned options: ");
        choice = sc.nextInt();
    }
}
public void insertAtEnd(int data)
{
    Node newNode = new Node(data);
    if (this.head == null)
```



```
    if (this.head == null)
    {
        this.head = newNode;
    } else
        {
        Node cur = this.head;
        while (cur.next != null)
        {
            cur = cur.next;
        }
        cur.next = newNode;
    }
}
public void deleteAtEnd()
{
    Node cur= head;
    if(cur == null)
    {
        out.println("Beep. Beep. The list is currently EMPTY.");
```

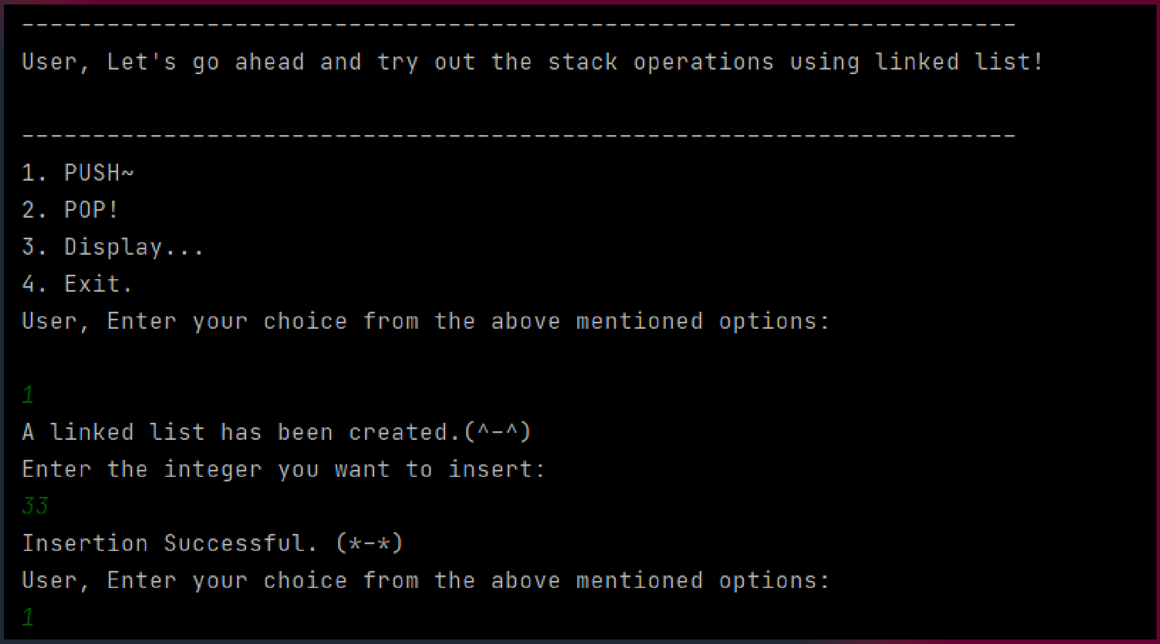


```
            out.println("Beep. Beep. The list is currently EMPTY.");
            return;
        }
        if(cur.next==null)
        {
            this.head = null;
        }
        else
            {
            while (cur.next.next != null)
            {
                cur = cur.next;
            }
            cur.next = null;
        }
    }
    public void print()
    {
        if (this.head == null)
```

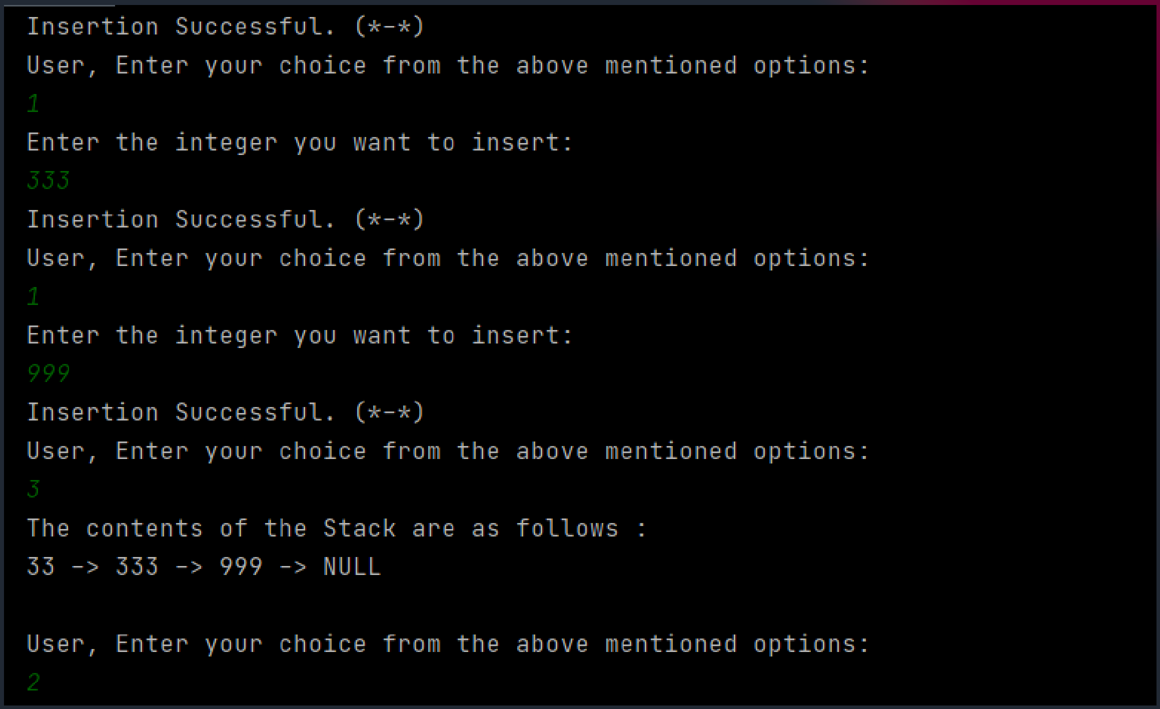


```
            out.println("Beep. Beep. The list is currently EMPTY.");
        } else
            {
            out.println("The contents of the Stack are as follows : ");
            Node cur = this.head;
            while (cur != null)
            {
                out.print(cur.data + " -> ");
                cur = cur.next;
            }
            out.println("NULL\n");
        }
    }

    public static void main(String[] args)
    {
        options();
    }
}
```

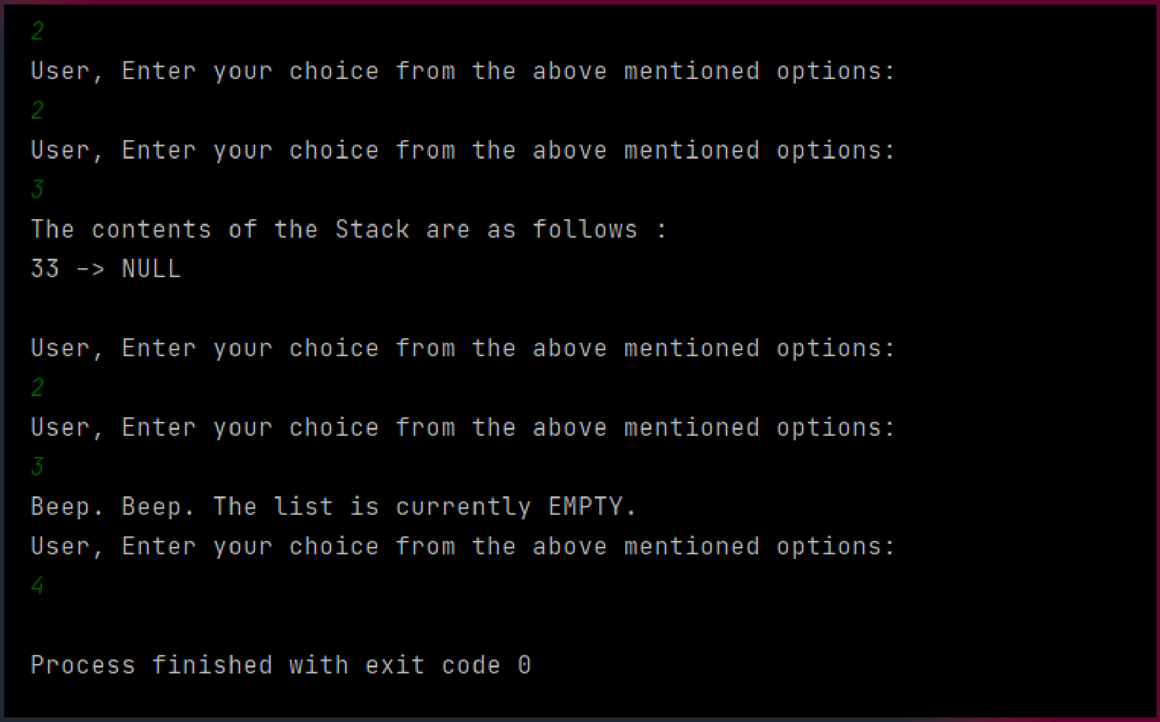
Output:



```
----------------------------------------------------------------------
User, Let's go ahead and try out the stack operations using linked list!

----------------------------------------------------------------------
1. PUSH~
2. POP!
3. Display...
4. Exit.
User, Enter your choice from the above mentioned options:

1
A linked list has been created.(^-^)
Enter the integer you want to insert:
33
Insertion Successful. (*-*)
User, Enter your choice from the above mentioned options:
1
```



```
Insertion Successful. (*-*)
User, Enter your choice from the above mentioned options:
1
Enter the integer you want to insert:
333
Insertion Successful. (*-*)
User, Enter your choice from the above mentioned options:
1
Enter the integer you want to insert:
999
Insertion Successful. (*-*)
User, Enter your choice from the above mentioned options:
3
The contents of the Stack are as follows :
33 -> 333 -> 999 -> NULL

User, Enter your choice from the above mentioned options:
2
```



```
2
User, Enter your choice from the above mentioned options:
2
User, Enter your choice from the above mentioned options:
3
The contents of the Stack are as follows :
33 -> NULL

User, Enter your choice from the above mentioned options:
2
User, Enter your choice from the above mentioned options:
3
Beep. Beep. The list is currently EMPTY.
User, Enter your choice from the above mentioned options:
4


Process finished with exit code 0
```

--------------------Fin--------------------